not showing such a close relationship as that of the cervix to the floor of the bladder, nevertheless shows a ready lymphatic connexion. This is well shown by Rouvière (1932), and there would seem to be no reason why infection should not spread from the lymphatics of one organ to those of the other, which would appear, on clinical grounds, to be the case.

The results of treatment of the bowel condition combined with that of the bladder neck go far to support this theory. Dilatation of the bladder neck and even fulguration of polypi and granulations have not produced very encouraging results in such cases, but when the lesion of the bowel is alleviated the urethro-trigonitis responds to treatment very much more readily. Thus the bladder neck was treated in exactly the same way as when the infection came from the cervix, care being taken not to irritate the urethra by too frequent dilatation—that is, not more than once every six weeks and usually at less frequent intervals.

Treatment of the bowel depends on the type of lesion and its extent. In the less extensive lesions, in which surgery is not called for, the institution of a low residual diet which does not irritate the mucosa of the bowel and limits fermentation, combined with regulation of bowel action by "petrolagar" with or without phenolphthalein, alone may give much improved results, but infection can be further limited by the administration of phthalylsulphathiazole in an initial dose of six 0.5-g. tablets followed by two tablets every six hours for fourteen days. This course can be repeated at fortnightly intervals until the infection has been greatly diminished. (In the more resistant cases an initial course of streptomycin and sulphaguanidine followed by phthalylsulphathiazole may be necessary.) As a result of this routine the symptoms of urethro-trigonitis were improved in each of the cases treated.

Summary

Symptoms of urethro-trigonitis were present in 25 to 30% of female patients attending an out-patient clinic, and this condition was verified by urethroscopy in which characteristic changes were found present at the bladder neck. These changes have been proved to arise from lesions of the cervix and genital tract, and were found in 66% of these cases. Of the remaining 34%, a third were found to have radiologically demonstrable lesions of the large intestine. Treatment of the intestinal infection, combined with dilatation and, where necessary, fulguration of the bladder neck, gives excellent results as compared with dilatation and fulguration alone.

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The Ministry of Education on September 13 asked local education authorities to review their arrangements for providing primary and secondary education for children in hospital and to see that they are as comprehensive as possible. Though much has been done, the Ministry claims that "there are still some educable children in hospital for whom no provision has been made." This may be provided either by teachers visiting or by setting up hospital schools. In 1955 there were 120 hospital schools in England and Wales, with 6,476 children on the roll; 1,425 other children were receiving individual tuition. Where there is no hospital school or regular teaching group, the Ministry of Health has asked hospitals to inform education authorities about the admission of any child likely to remain in hospital who is yet well enough to have some lessons. The circular calls for a good supply of library books, commenting: "Reading matter given by well-intentioned visitors may not always be suitable or adequate."

ACCIDENTAL CARBON MONOXIDE POISONING

DANGERS OF INADEQUATE VENTILATION

BY

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Of late there have been frequent expressions of concern at the increasing number of deaths from accidental coal-gas poisoning. A high proportion of such accidents are associated with various predisposing or contributory conditions in the victim, which have been described collectively as "the 4 D's of accidental carbon monoxide poisoning"—the decrepit, the diseased, the drugged, and the drunk. Others are caused by faulty appliances or by ill-advised amateur adaptations, and occasionally responsibility can be traced to defects in gas-pipes or joints which are actually outside the premises occupied by the victims.

The danger of coke braziers and coke-burning stoves is well known, but deaths still occur from these sources, through either ignorance or disregard of warnings. It is insufficiently appreciated, however, that even coal-burning stoves and fires may be dangerous in certain circumstances, and that gas-fires and other appliances, though free of defects in themselves, may also be a source of danger if the conditions do not ensure free and complete combustion of the coal-gas. The following cases, resulting in the deaths of three healthy adult males, illustrate the circumstances in which fatal poisoning from such sources may arise, and point to the need for a greater awareness of the potential danger.

Case 1

A man aged 50, employed as watchman on a building site, was in the way of spending part of the night asleep in a workmen's hut, and one morning he was found lying dead on the bunk with which the hut was fitted. The post-mortem appearances, external and internal, pointed to death from carbon monoxide poisoning, and the blood contained 55% carboxyhaemoglobin. There was no other significant finding at necropsy, apart from recent pleural adhesions over the left lung and older adhesions over the right lung. The man had recently resumed work after several weeks in hospital suffering from pneumonia.

The hut was of the wheeled type, adapted for towing, and the door at the rear was divided horizontally into two parts, upper and lower. There were two small windows, each capable of being opened. Inside the hut there was a fixed stove, with a chimney leading out through the roof. The capacity of the interior of the hut was approximately 600 cubic feet (17 cubic metres). On the night in question, which was very cold with a gusty wind blowing, both halves of the door had been closed and only one of the windows was slightly open. A fire had been burning in the stove, and this had apparently been well stoked before the man lay down to sleep. There was also an oil-lamp burning.

It was quite certain that no coke had been used in the stove, the only fuel available being coal of normal household quality. The stove and chimney were in good condition, without obvious defects. In these circumstances it was thought desirable to confirm the possibility of a lethal concentration of carbon monoxide having accumulated in the hut, and with this in view a fire of the same coal was lit in the stove and allowed to burn for about one and a half hours. The stove had previously been cleared of ashes and the fire burned freely. One window was slightly open. Samples were then taken of the flue (chimney) gases, with

the hut door open and closed, and also of the air above the stove, with the following results :

CO in flue gases (hut door open)	980	parts per million
CO in flue gases (hut door closed)	1,460	,, ,, ,,
CO in air above stove (hut door closed) ..	310	,, ,, ,,

The increase in the CO content of the flue gases on closing the door is marked, and clearly indicates inadequate ventilation, with consequent impaired combustion. The CO content of the air above the stove is significant, for, on the day of sampling, the down draught was only very slight and intermittent. It is obvious that with the door shut, and with frequent short periods of down-draught such as would occur in windy weather, a lethal concentration would accumulate quite rapidly in such a relatively small space. The time of exposure of any occupant would not require to be greatly prolonged before a fatal result ensued.

Cases 2 and 3

Two men, aged 31 and 32, booked lodgings for the night and retired to their bedroom about 9 p.m. In the morning the bedroom door was found locked, and, as no response was obtained to repeated knocking, entry was eventually obtained by a window, and the two men were found dead in bed. The gas-fire in the room was burning, apparently satisfactorily, but both men had died from carbon monoxide poisoning, the blood in each case showing a concentration of 72% carboxyhaemoglobin. The necropsy revealed no other feature of significance.

A washed nylon shirt and other garments were found hung up in front of the fire as if to dry, and it appeared that the fire had been lit by the men before retiring and had burned all night. The door of the room was fitted with a draught excluder, the window had been closed and the curtains were drawn. The capacity of the room was slightly less than 1,100 cubic feet (31 cubic metres) and the atmosphere in the room in the morning was very hot, dry, and oppressive, almost like an oven, although there was no strong or obvious smell of coal-gas.

The gas-fire stood in a tiled fireplace from which a long flue or chimney led to the exterior. There was some blackening of the tiles above the fire, and the chimney was found to be partially choked. The gas-fire consisted of seven elements or radiants, and, although these were broken in places, the flames appeared satisfactory and combustion complete. There was no defect in the gas-tubing or joints.

After the fire had been allowed to burn for about half an hour with the door and window closed, however, there was noticeable lengthening of the inner cones of the flames, indicating incomplete combustion. The sequence of events leading to the deaths was fairly certain. The exclusion of air entry into a room of small dimensions had resulted in insufficient oxygen for complete combustion, and the choked chimney had caused spilling of the products of incomplete combustion back into the room. Although the actual rise of CO concentration was not determined, it is obvious that a potentially lethal concentration would be quickly achieved in such a relatively small room, and the sleeping occupants would remain quite unaware of the increasing danger.

Conclusion

These fatal cases of accidental carbon monoxide poisoning provide a timely reminder of : (1) the danger of using stoves in confined spaces, *even though these are in good order and fuelled with good quality coal,* unless adequate positive ventilation is ensured at all times, whether the doors or windows be closed or not ; and (2) the danger which may arise from gas-fires, *even if these and their fittings are in perfect order and they appear to be burning satisfactorily,* if there is not also adequate ventilation and extraction of the combustion products.

I am indebted to Dr. E. A. C. Chamberlain, of the Scientific Department of the Scottish Division of the National Coal Board, for his co-operation in the investigation of Case 1 and for the results of the tests which he carried out in connexion therewith ; and to Mr. David Beavis, Controller of the Edinburgh Division of the Scottish Gas Board, for the report of the investigation carried out by his department in connexion with the other two fatalities.

LOCAL HYDROCORTISONE FOR HUNNER'S ULCER OF THE BLADDER

PRELIMINARY REPORT

BY

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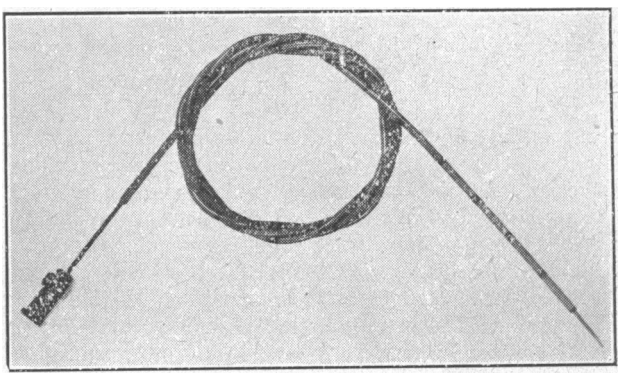
Local infiltration with hydrocortisone has been used effectively in the treatment of a variety of non-specific inflammatory and fibrotic processes. It appeared reasonable to expect that a similar resolution of focal inflammation with relief of symptoms would be produced by this means in cases of Hunner's ulcer of the bladder. Three patients with this condition have therefore been so treated.

Technique

The injection is carried out cystoscopically through a specially devised "needle" (see photograph). A size 0 hypodermic needle is filed through 1.5 cm. from its point



and lengthened by the interposition, between the two portions, of a size 5E ureteric catheter from which the eyelet end has been removed. The catheter is found to grip the needle securely, and there is no risk of the point becoming detached.

At cystoscopy, using an irrigating instrument and with the patient in the lithotomy position, the affected region of the bladder is identified. The needle, with a stylet in position almost to the point, is passed through the catheterizing or operating channel of the cystoscope and inserted into the bladder wall at or near the ulcer. An assistant is required to withdraw the stylet and inject about 0.5 ml. of hydrocortisone suspension. In all, 5 ml. containing 25 mg. of hydrocortisone per ml. is injected through several punctures into and around the involved area. Penetration of the bladder wall obliquely is found to minimize the tendency of the suspension to flow back from the puncture wound during the injection and after withdrawal of the needle. Ballooning of the vesical mucosa may be produced, but it is probably preferable to inject more deeply into the bladder muscle.

Results

The patients were women aged 63, 68, and 73 years, and were known cases of Hunner's ulcer of two, three, and six years' duration. Treatment by bladder distension under anaesthesia, zinc ionization, and vesical irrigation had formerly been carried out on many occasions. In January, 1956,